# **SIEMENS**

# Data sheet

# 3RA6120-2BB34



SIRIUS, COMPACT STARTER, DIRECT STARTER 690 V, 24 V AC/DC, 50 ... 60 HZ, 0.32 ... 1.25 A, IP20, CONNECTION MAIN CIRCUIT: SPRING-LOADED TERMINAL, CONNECTION AUXILIARY CIRCUIT: PLUGGABLE, WITHOUT TERMINALS

Product brand name	SIRIUS		
Product designation	compact starter		
Design of the product	direct starter		
General technical data			
Product function			
<ul> <li>Control circuit interface to parallel wiring</li> </ul>	Yes		
Product extension			
Auxiliary switch	Yes		
Insulation voltage			
• rated value	690 V		
Degree of pollution	3		
Surge voltage resistance rated value	6 000 V		
maximum permissible voltage for safe isolation			
<ul> <li>between auxiliary and auxiliary circuit</li> </ul>	250 V		
<ul> <li>between control and auxiliary circuit</li> </ul>	300 V		
<ul> <li>between main and auxiliary circuit</li> </ul>	400 V		
Protection class IP	IP20		
Vibration resistance	f= 4 5.8 Hz, d= 15 mm; f= 5.8 500 Hz, a= 20 m/s²; 10 cycles		
Mechanical service life (switching cycles)			

<ul> <li>of the main contacts typical</li> </ul>	10 000 000			
<ul> <li>of auxiliary contacts typical</li> </ul>	10 000 000			
<ul> <li>of the signaling contacts typical</li> </ul>	10 000 000			
Electrical endurance (switching cycles) of auxiliary				
contacts				
<ul> <li>at DC-13 at 6 A at 24 V typical</li> </ul>	30 000			
• at AC-15 at 6 A at 230 V typical	200 000			
Type of assignment	continous operation according to IEC 60947-6-2			
Equipment marking				
• acc. to DIN EN 61346-2	Q			
• acc. to DIN EN 81346-2	Q			
Ambient conditions				
Ambient temperature				
<ul> <li>during operation</li> </ul>	-20 +60 °C			
<ul> <li>during storage</li> </ul>	-55 +80 °C			
during transport	-55 +80 °C			
Main circuit				
Number of poles for main current circuit	3			
Adjustable pick-up value current of the current- dependent overload release	0.32 1.25 A			
Formula for making capacity limit current	38.4 x le			
Formula for interruption capacity limit current	32 x le			
Mechanical power output for 4-pole AC motor				
• at 400 V rated value	0.37 kW			
• at 500 V rated value	0.55 kW			
• at 690 V rated value	0.75 kW			
Operating voltage				
<ul> <li>at AC-3 rated value maximum</li> </ul>	690 V			
Operating current				
<ul> <li>at AC at 400 V rated value</li> </ul>	1.25 A			
• at AC-43				
— at 400 V rated value	1.1 A			
— at 500 V rated value	1.2 A			
— at 690 V rated value	1.1 A			
No-load switching frequency	3 600 1/h			
Operating frequency				
● at AC-41 acc. to IEC 60947-6-2 maximum	750 1/h			
● at AC-43 acc. to IEC 60947-6-2 maximum	250 1/h			
Control circuit/ Control				
Type of voltage	AC/DC			
Control supply voltage 1 at AC				

• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
Control supply voltage 1	
• at DC rated value	24 V
Holding power	
• at AC maximum	2.8 W
● at DC maximum	2.9 W
Auxiliary circuit	
Number of NC contacts	
<ul> <li>for auxiliary contacts</li> </ul>	1
Number of NO contacts	
<ul> <li>for auxiliary contacts</li> </ul>	1
<ul> <li>of instantaneous short-circuit trip unit for signaling contact</li> </ul>	1
Number of CO contacts	
<ul> <li>of the current-dependent overload release for signaling contact</li> </ul>	1
Operating current of auxiliary contacts at AC-12 maximum	10 A
Operating current of auxiliary contacts at DC-13	
• at 250 V	0.27 A
Protective and monitoring functions	
Trip class	CLASS 10 and 20 adjustable
Off-delay time	50 ms
Operational short-circuit current breaking capacity (Ics)	
• at 400 V	53 kA
• at 500 V rated value	3 kA
● at 690 V rated value	3 kA
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	1.25 A
• at 600 V rated value	1.25 A
Yielded mechanical performance [hp]	
<ul> <li>for three-phase AC motor</li> </ul>	
— at 460/480 V rated value	0.5 hp
— at 575/600 V rated value	0.5 hp
Contact rating of auxiliary contacts according to UL	contacts 21-22, 13-14, 43-44 Q600 / A600, contacts 77-78 R300 / B300, contacts 95-96-98 R300 / D300
Short-circuit protection	
Product function Short circuit protection	Yes

Design of the fuse link			
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gL/gG: 10 A		
<ul> <li>for short-circuit protection of the signaling switch of the short-circuit release required</li> </ul>	6A gL/gG/400V		
<ul> <li>for short-circuit protection of the signaling switch of the overload release required</li> </ul>	4A gL/gG/400V		
Installation/ mounting/ dimensions			
Mounting position	any		
• recommended	vertical, on horizontal standard mounting rail		
Mounting type	screw and snap-on mounting		
Height	191 mm		
Width	45 mm		
Depth	165 mm		
Connections/Terminals			
Product function			
<ul> <li>removable terminal for main circuit</li> </ul>	Yes		
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	Yes		
Type of electrical connection			
<ul> <li>for main current circuit</li> </ul>	spring-loaded terminals		
<ul> <li>for auxiliary and control current circuit</li> </ul>	plug-in without terminals		
Type of connectable conductor cross-sections			
<ul> <li>for main contacts</li> </ul>			
— solid	2x (1.5 6 mm²), 1x 10 mm²		
— finely stranded with core end processing	2x (1.5 6 mm²)		
<ul> <li>finely stranded without core end processing</li> </ul>	2x (1.5 6 mm²)		
• at AWG conductors for main contacts	2x (16 10), 1x 8		
Type of connectable conductor cross-sections			
<ul> <li>for auxiliary contacts</li> </ul>			
— solid	2x (0.25 1.5 mm²)		
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.25 1.5 mm²)		
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.25 1.5 mm²)		
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (24 16)		
Safety related data			
B10 value			
<ul> <li>with high demand rate acc. to SN 31920</li> </ul>	3 000 000		
Proportion of dangerous failures			
• with low demand rate acc. to SN 31920	40 %		
• with high demand rate acc. to SN 31920	50 %		

Failure rate [FIT]						
<ul> <li>with low demand rate acc. to SN 31</li> </ul>	920	100 FIT				
T1 value for proof test interval or service life acc. to IEC 61508		20 у				
Communication/ Protocol						
Product function Bus communication		No				
Protocol is supported						
IO-Link protocol			No			
Electromagnetic compatibility						
Field-bound parasitic coupling acc. to IEC	Field-bound parasitic coupling acc. to IEC 61000-4-3					
Electrostatic discharge acc. to IEC 61000	)-4-2	8 kV				
Conducted HF-interference emissions acc. to CISPR11		150 kHz 30 MHz Class A				
Field-bound HF-interference emission ac CISPR11	c. to	30 1000 MHz Class	A			
Supply voltage						
Supply voltage required Auxiliary voltage		No				
Certificates/approvals						
General Product Approval			EMC	Functional Safety/Safety of Machinery		
		EHC	C-Tick	VDE		
Declaration of ConformityTestCertificates	Marine / S	hipping				
EG-Konf. <u>Type Test</u> <u>Certificates/Test</u> <u>Report</u>	B U R E A U VERITAS	ĴÅ DNV DNV	Lloyd's Register Lrs	PRS		
Marine / Shipping	other					
RINA RMRS	Environmer Confirmatio					
Further information						

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http://www.siemens.com/industrial-controls/catalogs

#### Industry Mall (Online ordering system)

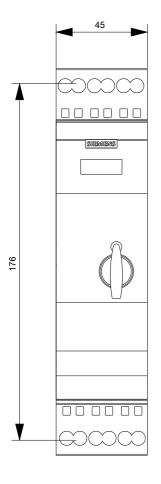
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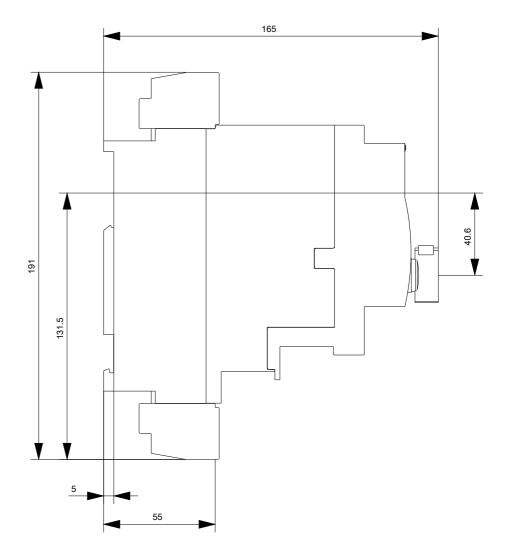
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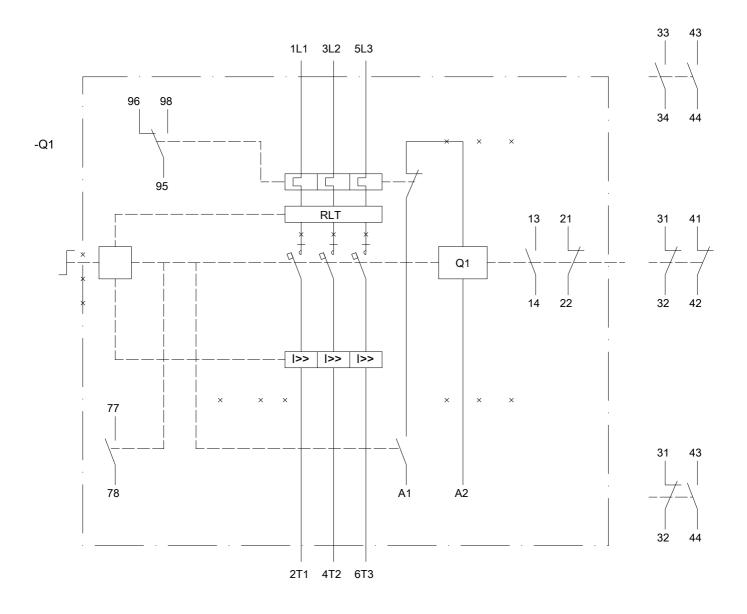
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Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RA6120-2BB34

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA6120-2BB34&lang=en







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